



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/572,321 | 03/17/2006 | Tadashi Onishi | 03878857524US | 8034 |

23911 7590 12/21/2007
CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

| |
|----------|
| EXAMINER |
|----------|

NAKARANI, DHIRAJLAL S

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1794

| | |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

12/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/572,321 | ONISHI ET AL. | |
| | Examiner | Art Unit | |
| | D. S. Nakarani | 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 15-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/06/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 2, 5-10, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 7, the phrase "metal, oxide, nitride, sulfide" should read -- metal, metal oxide, metal nitride, metal sulfide --, and lines 17-18 and 20, the phrase "metal, oxide or nitride" should read -- metal, metal oxide and metal nitride -- for clarity.

Claim 2, lines 8-9, and line 11, the phrase "metal, oxide or nitride" should read -- metal, metal oxide and metal nitride --, and line 15, the phrase "metal, oxide, nitride, sulfide" should read -- metal, metal oxide, metal nitride, metal sulfide -- for clarity.

Claims 9 and 10, line 3, the phrase "metal, oxide or nitride" should read -- metal, metal oxide and metal nitride -- for clarity.

Claims 19 and 20, line 2, the phrase "metal, oxide, nitride, sulfide" should read -- metal, metal oxide, metal nitride, metal sulfide -- for clarity.

3. Claims 1, 5, 6 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Takashi et al (JP 2002220262, Machine Translation) for the reasons of record set forth in paragraph 6 of the Office Action mailed April 5, 2007 (Paper Number 20070330).

Art Unit: 1794

4. Claims 1, 2, 5-14, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher et al (U.S. Patent 6,911,254 B2) in view of Muromachi et al (U.S. Patent 5,336,565), D'Errico (U.S. Patent 5,631,315) and Kondo (U.S. Patent 5,830,568).

Fisher et al disclose a laminated glass comprising: glass/interlayer containing ultrafine particles/interlayer coated with infrared reflecting layer/interlayer/glass (Example 11) or solar reflection or low e-glass/interlayer/interlayer containing ultrafine particles/tinted glass (Example 12). Fisher et al's ultrafine particles, such as antimony doped tin oxide (ATO) or indium doped tin oxide (ITO), have particle size less than 0.2 microns (i.e. 200 nm) (Col. 4, lines 9-24). Fisher et al's interlayer film coated with infrared reflecting layer can be polyvinyl butyral layer, polyethylene terephthalate film etc. (Col. 4, lines 25-36 and Example 11). Fisher et al's infrared reflecting film also can be commercially available multilayer reflective films and metallized polyethylene terephthalate films (Col. 2, lines 26-28). Fisher et al fail to disclose claimed sheet resistivity, other claimed ultrafine particles and solar reflection glass with claimed infrared reflective layer(s).

Muromachi et al disclose a solar reflection glass with claimed infrared reflective layers (Abstract, col. 2, lines 3-29 and Examples). Muromachi et al disclose required sheet resistivity for windshield having antennas (Col. 2, lines 45-49 and Table 1).

D'Errico disclose a glass laminate comprising glass/ZnO/metal (Ag)/ZnO/plasticized polyvinyl butyral layer(PVB)/glass or glass/PVB/ZnO/metal

Art Unit: 1794

(Ag)/ZnO/PET/PVB/glass (Col. 6, lines 33-67). D'Errico's metal layer can be made of silver, aluminum, chromium, brass, zinc, stainless steel etc. (Col. 5, lines 55-64).

Kondo discloses laminated glass having a multilayer interlayer wherein one layer of the inter layer comprises ultrafine particles having particle size up to 0.2 microns (Col. 2, line 60 to col. 3, line 18 and col. 4, line 3 to col. Col. 5, line 2). Kondo discloses sheet resistivity of a glass with glass antenna which includes claimed sheet resistivity (Col. 5, lines 50-65).

Therefore it would have been obvious to a person of ordinary skill in the art at time of this invention made to utilize disclosure of Muromachi et al, D'Errico and/or Kondo in the invention of Fisher et al to make windows with sheet resistivity as taught by either Muromachi et al or Kondo and use D'Errico's disclosure to use either infrared reflecting film coated glass or infrared reflecting film coated PET film.

No claims are allowed.

5. Claims 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims are deemed allowable over the art of record because art of record does not teach or suggest claimed structures of infrared reflective films.

6. Receipt of Information Disclosure Statement filed June 6, 2007 is acknowledged and all recited documents have been made of record.

7. Applicant's arguments filed October 05, 2007 have been fully considered but they are not persuasive. In reference to rejection of claims 1, 5 and 6 under 35 U.S.C. 102(b) as being anticipated by Takashi et al (JP 2002220262, Machine Translation), applicants mainly argue that Takashi et al teach that the infrared reflective film can comprise a laminate of high and low refractive-index layers. However there is no teaching or suggestion that such a laminate is limited to five layers or less as required by claim 1.

These arguments are unpersuasive because Takashi et al clearly disclose infrared reflective film comprising low refractive-index layer of silica and high refractive-index layer of titania (Paragraph 0022). Takashi et al teach glass laminate without hologram (Paragraph 0024). There is no disclosure of infrared reflective film comprising more than two layers.

Applicants' arguments relating to rejection of claims 1, 2 and 5-8 under 35 U.S.C. 103(a) as being unpatentable over Fisher et al (U.S. Patent 6,911,254 B2) in view of Muromachi et al (U. S. Patent 5,336,565) and Kondo (U.S. Patent 5,830,568) are deemed moot due to new ground of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. S. NAKARANI whose telephone number is (571) 272-1512. The examiner can normally be reached on Monday-Friday.

Art Unit: 1794

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. Nakarani/
D. S. Nakarani
Primary Examiner
Art Unit 1794

DSN
December 17, 2007.